

I Claim:

1. A method for determining a position of a printing image on a piece of printed material in a printing machine, which comprises the steps of acquiring, by a first optical sensor, a mark disposed on the piece of printed material; acquiring, by a second optical sensor, an edge of the piece of printed material; and calculating, by an evaluation unit, a spaced distance of the mark from the edge.

2. The method according to claim 1, which includes comparing the spaced distance of the mark, which has been calculated by the evaluation unit, with a prescribed nominal spaced distance, and emitting an output signal if the calculated spaced distance deviates from the nominal spaced distance by more than a prescribed value.

3. The method according to claim 2, which includes forming the output signal as a positioning signal, and feeding the positioning signal to an adjustment device for controlling positioning organs for determining the position of the piece of printing material in the printing machine.

4. The method according to claim 1, which includes moving the piece of printed material past the first and the second optical sensor in a prescribed direction of motion and with a predetermined velocity, determining the spaced distance

between the first and the second optical sensor in the direction of motion, determining the time span between acquiring the edge and acquiring the mark, and calculating a spaced distance of the edge from the mark, from the time span, the spaced distance between the optical sensors, and the velocity.

5. The method according to claim 1, which includes acquiring, by a third and a fourth optical sensor, an additional mark and the edge of the piece of printing material in vicinity of a side edge thereof disposed opposite the first and the second optical sensor, determining the spaced distance of the additional mark from the edge of the piece of printed material, comparing the spaced distance of the mark from the edge with the spaced distance of the additional mark from the edge, and emitting an output signal if the spaced distance of the mark from the edge and the spaced distance of the additional mark from the edge deviate from one another by more than a prescribed value.

6. The method according to claim 1, which includes storing the spaced distance of the mark from the edge of a plurality of pieces of printed material, and determining a mean value for the spaced distance of the mark.

7. The method according to claim 1, which includes providing as the mark a reference mark for adjusting partial printing images.

8. The method according to claim 1, which includes storing the spaced distance for taking it into account in a further processing of the piece of printing material.

9. The method according to claim 1, which includes taking over the nominal spaced distance of the mark from the edge of the sheet by a printing stage.

10. Monitoring device for a sheet-fed printing machine, comprising a transport device for moving a piece of printing material in a prescribed direction of motion; a first optical sensor for acquiring a mark disposed on the piece of printing material, a second optical sensor for acquiring an edge of the piece of printing material; an acquisition unit for determining the velocity of the piece of printing material; and an evaluation unit for calculating

- a. a spaced distance between said mark and said edge from the chronological spacing between acquiring said edge and acquiring said mark;
- b. at least one of the velocity and the position of the piece of printing material, and

c. the determined spaced distance between said first and said second optical sensor, said spaced distance being parallel to the direction of motion of the piece of printing material.

11. The monitoring device according to claim 10, including a data storage unit for storing therein, by said evaluation unit, spaced distances of a plurality of pieces of printed material, said evaluation unit serving for calculating a mean value for the spaced distance of said mark from said edge of a plurality of pieces of printing material.

12. The monitoring device according to claim 10, wherein said first and said second optical sensor are disposed on one structural member or component.

13. The monitoring device according to claim 10, including a movement device for moving one of said first, said second, said third, and said fourth optical sensors.

14. The monitoring device according to claim 10, wherein one of said second and said third optical sensors includes a first and a second transmitter disposed at a prescribed spaced distance from one another and, disposed between said first and said second transmitter, is a receiver for monitoring an

observation point, said transmitters serving for emitting a light signal impinging on said observation point.

15. The monitoring device according to claim 14, including a switch is provided that activating one of said first and said second transmitters.

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